

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A multi-mode wireless device on a single substrate, comprising:

an analog portion integrated on the substrate, including:

a radio frequency (RF) front-end to receive an RF signal from an antenna; and

an analog to digital converter (ADC) coupled to the RF front-end to digitize the RF signal; and

a digital portion integrated on the substrate, including:

a reconfigurable logic core coupled to receive the digitized RF signal from the ADC, the reconfigurable logic core to handle a plurality of wireless communication protocols;

~~one or more~~ a plurality of general-purpose processor cores coupled to the reconfigurable logic core; and

a memory array coupled to the reconfigurable logic core.

Claim 2 (currently amended): The wireless device on a single substrate of claim 1, wherein the plurality of wireless communication protocols ~~protocol conforms to~~ includes one or more cellular protocols of a Global System for Mobile Communications (GSM) protocol, a General Packet Radio Service (GPRS) protocol, and an Enhance Data Rates for GSM Evolution (Edge) protocol and further includes ~~an 802.11A~~ a short-range wireless protocol.

Claim 3 (currently amended): The wireless device on a single substrate of claim 1, wherein the reconfigurable logic core is to deliver data in parallel to the ~~one or more~~ plurality of general-purpose processor cores.

Claim 4 (currently amended): The wireless device on a single substrate of claim 1, wherein the reconfigurable logic core is to deliver data in series to the ~~one or more~~ plurality of general-purpose processor cores.

Claim 5 (currently amended): The wireless device on a single substrate of claim 1, further comprising a first-in-first-out (FIFO) buffer positioned between the reconfigurable logic core and at least one of the one or more general-purpose processor cores.

Claim 6 (currently amended): The wireless device on a single substrate of claim 1, wherein at least one of the ~~one or more~~ plurality of general-purpose processor cores includes a multiply-accumulate (MAC) unit.

Claim 7 (currently amended): The wireless device on a single substrate of claim 1, wherein at least one of the ~~one or more~~ plurality of general-purpose processor cores comprises a reduced instruction set computer (RISC) processor.

Claim 8 (currently amended): The wireless device on a single substrate of claim 1, further comprising a router coupled to ~~the reconfigurable logic core~~ route packets to a cellular radio core and a short-range wireless transceiver core of the analog portion.

Claim 9 (currently amended): The wireless device on a single substrate of claim 8, wherein the router further comprises an engine to track the destination of the packets and send them in parallel through a plurality of separate pathways via a first wireless transmission medium and a second wireless transmission medium.

Claim 10 (currently amended): The wireless device on a single substrate of claim 8, wherein the router is to send packets in parallel through a primary and a secondary communication channel via a first wireless transmission medium and a second wireless transmission medium.

Claim 11 (currently amended): A portable computer system, comprising:

- a processor;
- a multi-mode wireless device on a single substrate coupled to the processor, the device comprising:
 - an analog portion integrated on the substrate, including:
 - a cellular radio core having an analog to digital converter (ADC) configured to receive a radio signal from an antenna, and
 - a short-range wireless transceiver core; and

a digital portion integrated on the substrate, including:

a reconfigurable logic core coupled to receive converted data from the ADC, the reconfigurable logic core configured to handle a plurality of wireless communication protocols;

~~one or more~~ a plurality of general-purpose processor cores coupled to the reconfigurable logic core; and

a memory array coupled to the reconfigurable logic core.

Claims 12 - 15 (canceled)

Claim 16 (previously presented): The portable computer system of claim 11, wherein the reconfigurable logic core includes one or more digital signal processors (DSPs).

Claim 17 (previously presented): The portable computer system of claim 11, wherein the reconfigurable logic core includes one or more reduced instruction set computer (RISC) processors.

Claim 18 (previously presented): The portable computer system of claim 11, further comprising a router coupled to the reconfigurable logic core, the cellular radio core, and the short-range wireless transceiver core.

Claim 19 (previously presented): The portable computer system of claim 18, wherein the router is to de-correlate data.

Claim 20 (currently amended): The portable computer system of claim 18, wherein the router is to de-correlate data into parallel streams that are not time-correlated and to route packets of data via a first wireless transmission medium and a second wireless transmission medium.

Claim 21 (previously presented): The portable computer of claim 11, further comprising an input recognizer embodied in a program storage device, said input recognizer configured to receive input from a user.

Claim 22 (previously presented): The portable computer of claim 11, wherein the reconfigurable logic core comprises a vector processor.

Claim 23 (previously presented): The portable computer of claim 22, wherein the vector processor is configured to provide a parallel data output to the one or more general-purpose processor cores.

Claim 24 (currently amended): The portable computer of claim 11, wherein the digital portion comprises a reconfigurable processor core including the reconfigurable logic core and the ~~one or more~~ plurality of general-purpose processor cores.